

What is claimed is

1. A stator iron core of an electric motor comprising plural magnetic pole segments,  
wherein each of the plural magnetic pole segments has a back yoke portion and a teeth portion projected from the back yoke portion,  
wherein each of the plural magnetic pole segments is connected so as to be bendable via a connection portion provided to the back yoke portion,  
wherein the stator iron core is circularly formed by bending the connection portions of the plural magnetic pole segments, and  
wherein each of the plural magnetic pole segments is made so that a bottom portion of a slot constituted by the back yoke portion and the teeth portion has a curved line after circularly forming the stator iron core.
- 10 2. The stator iron core of the electric motor claimed in claim 1 further comprising an insulator member placed on the teeth portion for covering a projected portion of the back yoke portion and covering a wall surface of the teeth portion, wherein a wall surface covering the back yoke portion of the insulator member makes an angle of around  $90^\circ$  with the wall surface covering the teeth portion of the insulator member.
- 15 3. A stator iron core of an electric motor comprising plural magnetic pole segments,  
wherein each of the plural magnetic pole segments has a back yoke portion and a teeth portion projected from the back yoke portion,  
wherein each of the plural magnetic pole segments is connected so as to be bendable via a connection portion provided to the back yoke portion,  
wherein the stator iron core is circularly formed by bending the

connection portions of the plural magnetic pole segments, and  
wherein the magnetic pole segment has a notch on an outer  
circumference of the back yoke portion.

4. The stator iron core of the electric motor claimed in claim 3, wherein  
5 the notch is provided at a place opposite to the connection portion in an axial  
direction on the outer circumference of the back yoke portion.

5. The stator iron core of the electric motor claimed in claim 3, wherein  
the notch is provided at a place opposite to the teeth portion in an axial  
direction on the outer circumference of the back yoke portion.

10 6. A stator iron core of an electric motor comprising plural magnetic  
pole segments which are connected and confronted by plural confronting  
surfaces,  
wherein two of the confronting surfaces are made to have V-shaped  
surfaces.

15 7. The stator iron core of the electric motor claimed in claim 6,  
wherein the stator iron core includes laminated iron core members,  
each of which has the plural magnetic pole segments connected via thin  
connection portions,

20 wherein the plural confronting surfaces include plural confronting  
surfaces of the connection portions at both sides of the connection portions,  
and the two of the confronting surfaces of the end portions having the V-  
shaped surfaces,

25 wherein the stator iron core is circularly formed by bending each of  
the connection portions, joining the plural confronting surfaces of the  
connection portions, and joining the two of the confronting surfaces of the

end portions.

8. The stator iron core of the electric motor claimed in claim 6, wherein each of the two of the confronting surfaces having the V-shaped surfaces is formed by combining a first arc and a second arc, and centers of the first arc and the second arc match to a turning center of bending the connection portion of any magnetic pole segment of the stator.
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9. The stator iron core of the electric motor claimed in claim 6, wherein the two of the confronting surfaces form a jut having a top point projected to an outer circumference side of the stator iron core of the electric motor, and
- 10 the top point of the jut is located inside of the outer circumference of the stator iron core of the electric motor.

10. An electric motor comprising the stator iron core of the electric motor claimed in claim 1.

11. An electric motor comprising the stator iron core of the electric motor claimed in claim 3.

12. An electric motor comprising the stator iron core of the electric motor claimed in claim 6.

13. A compressor comprising the electric motor claimed in claim 10.

14. A compressor comprising the electric motor claimed in claim 11.

20 15. A compressor comprising the electric motor claimed in claim 12.

16. A method for manufacturing a stator iron core of an electric motor, comprising:

making plural magnetic pole segments, each of which has a back yoke portion and a teeth portion projected from the back yoke portion;

25 connecting the plural magnetic pole segments so as to be bendable

via a connection portion provided to the back yoke portion;  
circularly forming the stator iron core by bending the connection  
portion of the plural magnetic pole segments after winding the coil wire, and  
wherein the making the plural magnetic pole segments includes  
5 making projected portions so that a bottom portion of a slot constituted by  
the back yoke portion and the teeth portion has a curved line when the stator  
iron core is circularly formed.

17. A method for manufacturing a stator iron core of an electric motor,  
comprising:

10 making plural magnetic pole segments, each of which has a back  
yoke portion and a teeth portion projected from the back yoke portion;  
providing a notch on an outer circumference of the back yoke portion;  
connecting the plural magnetic pole segments so as to be bendable  
via a connection portion provided to the back yoke portion; and  
15 circularly forming the stator iron core by bending the connection  
portion of the plural magnetic pole segments after winding the coil wire.

18. A method for manufacturing a stator iron core of an electric motor,  
comprising:

making plural magnetic pole segments connected via connection  
20 portions, having two end portions, wherein each of the plural magnetic pole  
segments has confronting surfaces at both sides of the connection portions;  
making a V-shaped convex contact portion on the confronting surface  
of one of the two end portions;  
making a V-shaped concave contact portion on the confronting  
25 surface of another of the two end portions;

joining the confronting surfaces of the connection portions; and finally joining the confronting surfaces of the end portions so as to form the stator iron core.